February 28—March 1, 2002

Moving to the Mainstream

Indiana GIS 2002 Conference Proceedings

Sheraton Hotel and Suites
Indianapolis, Indiana

Contents:

Special points of interest:

- Exhibitors' Reception Thursday evening
- Continental Breakfast Friday morning
- Keynote Presentation "The President's GIS Initiatives" Friday morning
- Friday Luncheon, Indiana GIS Awards, and Door Prizes
- Poster displays

Hosted by:

- **Indiana Geographic Information Council**
- **Indiana Geological Survey**
- **City of Elkhart, Indiana**
- **HNTB**
- **Indiana Department of Environmental Management**
- **The Sanborn Map Company**
- **Watershed Research**
- **Woolpert LLP**

Thursday, February 28, 2002						
TIME	**Event/Location**					
7:30 AM to 5:00 PM	**Registration**					
ROOM	**Suite 2&3**	**Suite 4&5**	**Suite 6&7**	**Suite 11&12**	**Suite 13&14**	**Suite 15**
8:30 AM to 11:45 PM	**Concurrent Workshop 1:**	**Concurrent Workshop 2:**	**Concurrent Workshop 3:**	**Concurrent Workshop 4:**	**Concurrent Workshop 5:**	**Concurrent Workshop 6:**
	Designing Maps that Send the Correct Message	GIS and the Internet	GIS Fundamentals	Fundamentals of GPS for GIS	Leveraging your GIS	Your Gateway to Data: Metadata
11:45 PM to 1:30 PM	**Lunch (On Your Own - see map insert for restaurant locations)**					
ROOM	**Suite 2&3**	**Suite 4&5**	**Suite 6&7**	**Suite 11&12**	**Suite 13&14**	**Suite 15**
1:30 PM to 4:45 PM	**Concurrent Session 1: Transportation / Utilities / Infrastructure Management**	**Concurrent Session 2: Data Sharing and Data Access**	**Concurrent Session 3: Environmental & Natural Resources**	**Concurrent Session 4: Economic Development/Planning**	**Concurrent Session 5: Emergency Services/Public Health**	**Concurrent Session 6: Funding Sources and Strategies**
Speaker 1: 1:30 PM-2:15 PM	Speaker: Jennifer Weintraut, City of Indianapolis Topic: Indianapolis' Sewer Layers: A True Story of Data Clean-up	Speaker: Anna Radue, Indiana University Topic: Indiana Spatial Data Digital Library	Speaker: Cathy Genest Godfrey, ACRT, Inc. Topic: Maps, Trees, & Satellites: GIS & GPS in Urban Forestry	Speaker: James T. Robb, IDEM Topic: Estimating the Effects of the SWANCC Supreme Court Ruling Using GIS	Speaker: Sam Wallace, DDT, Inc. Topic: GIS and Addresses in E9-1-1	Speaker: Doug Marvel Topic: GIS and Photogrammetry Procurement: Designing Good Procurement Practices
Speaker 2: 2:30 PM-3:15 PM	Charline M Aveym, Indianapolis Water Company Topic: Taking your GIS Data into the Field	Speaker:Larry Theller, Purdue Univerisity Topic: Combining GIS and GPS to Create a Responsive and Practical Data Library for a Statewide Organization	Speaker: Bernard Engel, Purdue University Topic: HYMAPS-OWL: Hydrological Map Server - On-line Watershed Delineation	Speaker: Jeffrey Wilson, PhD - IUPUI Topic: Remote Sensing of Land Cover Dynamics in Indiana	Speaker: Joseph Zumwald, AICP - Woolpert Topic: GIS Hits the Books - The Development of Purdue University's GIS	Cheryl Spencer, City of Indianapolis Topic: The Reality of a Pie-in-the-Sky ArcIMS Implementation
Speaker 3: 3:30 PM-4:45 PM	Speaker: Heather Turner, HNTB Corporation Topic: Indianapolis Transportation Monitoring System	Speaker: L. John Old, Indiana University Topic: Information Cartography: Using your GIS for Non-Spatial Data Analysis	Speaker: Andrew Harrison, The Schneider Corporation Topic: Using GIS for the Agricultural Reassessment Process	Speaker: Randy Kobiella, The Sidwell Company Topic: Indiana Gets NEW Parcel Numbers for GIS Data Access	Speaker: Brant Howard, CompassCom Topic: E911 Wireless Phase II Requires New Maps	Speaker: Charles Hickman, USGS Topic: The National Hydrography Dataset - A Cooperative Effort
5:00 PM to 7:00 PM	**Exhibitors' Reception (Plaza Foyer, Suites 8, 9, 10)**					

Indiana 2002 GIS Conference
February 28 - March 1, 2002

Friday, March 1, 2002						
7:00 AM to 9:00 AM	**Registration**					
7:00 AM to 8:00 AM	**Continental Breakfast (Ballroom)**					
8 AM - 9:15 AM	**Keynote Address (Ballroom)**					
ROOM	**Suite 2&3**	**Suite 4&5**	**Suite 6&7**	**Suite 11&12**	**Suite 13&14**	**Suite 15**
9:30 AM to 11:35 AM	**Concurrent Session 1: Transportation / Utilities / Infrastructure Management**	**Concurrent Session 2: Data Sharing and Data Access**	**Concurrent Session 3: Environmental & Natural Resources**	**Concurrent Session 4: Economic Development/Planning**	**Concurrent Session 5: Emergency Services/Public Health**	**Concurrent Session 6: Funding Sources and Strategies**
Speaker 1: 9:40 AM-10:30 AM	Speaker: Brad Fugate, CP - Woolpert Topic: Using LIDAR for Countywide Surface Modeling	Speaker: Andrew Harrison, The Schneider Corporation Topic: Introduction to GIS on the Internet	Speaker: Qihao Weng, PhD - Indiana State University Topic: The Cartographic Method of DEM Creation and Accuracy Assessment	Speaker: Joe Zumwald, AICP - Woolpert Topic: GIS Brings New Services to Small County Government - Building Upon Success	Speaker: Sam Wallace, DDT, Inc. Topic: Public and Employee Access to GIS Data: Getting GIS into the Hands that Need It	Speaker: David Lewis, Resource Mapping, Inc. Topic: Developing Practical Cadastral and Infrastructure Database Designs
Speaker 2: 10:45 AM-11:35 AM	Speaker: Bob McIntyre, Intergraph Corporation Topic: Public Works Data Capture Improved with Object Based Technology	Speaker: Doug Roberts, SDI Topic: Using Electronic Document Management Systems for Land Information Documents	Speaker: H.M. Stout and B.D. Lee, Purdue University Topic: Spatial Distribution of Soil Limitations and Septic Systems	Speaker: Pat Hinds, IDEM Topic: GIS Views of Pollution Sources Helps Manage Indiana's Environment	Speaker: Jerry Johnston, PhD - Pangaea Information Technologies, Ltc. Topic: The City of Chicago's IMS-based Automated Liquor Licensing System	Speaker: Greg Johnson, SDI Topic: Issues Related to Developing a Needs Assessment and Implementation Plan

11:35 AM to 1:00 PM	**Luncheon / Awards / Door Prizes (Ballroom)**					
ROOM	**Suite 2&3**	**Suite 4&5**	**Suite 6&7**	**Suite 11&12**	**Suite 13&14**	**Suite 15**
Speaker 3: 1:00 PM – 1:50 PM	Speaker: David Bayer, HNTB Corporation Topic: Innovative Handheld GIS Data Collection Methods	Speaker: Douglas Acheson, IUPUI Topic: A New Degree Program Combining GIS and Computer Graphics Technology	Speaker: Zhenxu Tang, Purdue University Topic: NAPRA WWW Predicted Pesticide and Nutrient Mapper	Speaker: Brant Mainzinger, The Sidwell Company Topic: Putting GIS on the Web	Speaker: Lorraine Wright, IDEM Topic: State and Local Cooperation with Vanderburg County	Speaker: Sam Wallace, DDT, Inc. Topic: Non-Traditional Funding Techniques for Accurate County-Wide GIS Within Three Weeks
Speaker 4: 2:05 PM – 2:55 PM	Speaker: Bob Busch, CompassCom Topic: Using GPS for GIS Data Maintenance	Speaker: Susan Carson Lambert, Kentucky Office for Technology Topic: The National Map - Vision for a Current Spatial Data Foundation	Speaker: Bruce Nielsen, National Resources Conservation Service Topic: Soil Data Viewer: ArcView & Web-Based Solutions for Accessing Soil Attributes	Speaker: Cheryl Musgrave, Vanderburgh County Topic: City-County Enterprise-Wide GIS Implementation	Speaker: Toby Days, Purdue University Topic: Improving Water Quality Via Wetlands	Speaker: John Steinmetz, Indiana Geological Survey Topic: Metadata as a Mechanism to Preserve Institutional Memory
Speaker 5: 3:10 PM – 4:00 PM	Speaker: Art Umble, City of Elkhart Topic: Utilizing GIS In Developing Realistic Demand Distributions to Support WaterCAD® Modeling in Water Supply Master Planning	Speaker: Jeff Sewell, IDEM Topic: Feature Metadata - Preview of Indiana Standard	Speaker: Kevin Miller, IDEM Topic: Sediments and Beneficial Uses of the Grand Calumet	Speaker: Larry Dumont, GRW Topic: Orthophotography/GIS	Speaker: Amrou Atassi, CDM & James Hunter, Purdue University Topic: GIS-Based Nutrient and Pesticide Pollution Analysis	Speaker: Andrew Harrison, The Schneider Corporation Topic: The Seven Sins of GIS

Insert conference room layout

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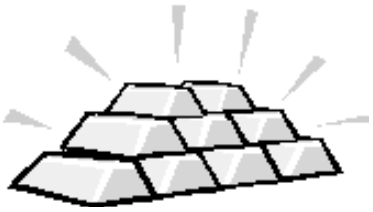

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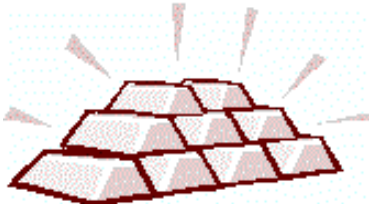

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Conference Committee

INGISI Factoid #31
The 6 IGIC Committees are open membership: Conference, Data Sharing, Education, Networking, Standards, Web Development

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Jeff Siegel
HNTB

Thursday, February 28, 2002

8:30 am—11:45 am

Workshop 1: Designing Maps that Send the Correct Message
location: Suite 2 & 3

This workshop addresses the cartographic design considerations that need to be addressed when developing a map. Composition of graphic elements, projections, output considerations, and design of different types of thematic and reference maps are just some of the many issues covered during this course. Special considerations for designing maps to be displayed on the web are also covered. The course provides participants with the foundation knowledge required to design effective and aesthetically pleasing maps regardless of the toolset being used to generate the map.

Kevin Mickey is the Director of the Training Center at The Polis Center at IUPUI.

"Coming together is beginning, staying together is progress, and working together is success."
- Henry Ford

Workshop 2: GIS and the Internet
location: Suite 4 & 5

Internet-based GIS solutions abound:

- All the major GIS vendors like ESRI, Intergraph, Autodesk, and Smallworld now offer mature 2nd/3rd generation software solutions.
- Middleware Web-server solutions from IT vendors like Oracle and Citrix enable GIS data and applications to be served up over the Internet.
- Emerging technology from the fast growing Location-based Services (LBS) market can deliver wired and wireless location-aware services (and GIS data) to the masses.

From a practical perspective, what can you do to take advantage of this technology. What solutions can meet your requirements, your skill level, your budget, your schedule, and what local resources are available to help?

These are just a few of the questions our panel will address. Our panel members represent a cross section of Indiana-based companies and organizations who have proven experience providing GIS data, applications, and services to their customers over the Internet.

Moderated by Jim Sparks, The Polis Center at IUPUI
Panelists:
Joel Bump, The Schneider Corporation
Brian L. Wood, P.I. Cripe
John Hannel, Woolpert LLP
Rob Williams, Plexis Group
Chris Walls , Indiana Geological Survey
Karen Fredrickson, The Polis Center
Jerry E. Giger, Analytical Surveys, Inc.

Thursday, February 28, 2002

8:30 am—11:45 am *Continued*

Workshop 3: GIS Fundamentals
location: Suite 6 & 7

Geographic Information Systems (GIS) have become one of the fundamental tools of Geography, Ecology, Urban and Environmental Planning, Civil Engineering, and Resource Management, and are increasingly used by many of the other disciplines that depend on spatial data. The goal of this course is to explore the fundamentals of GIS technology and to understand how they can be used for answering spatial problems. It will emphasize the development of spatial thinking, which incorporates space as a variable into the analysis of particular problems. Spatial thinking is essential to use the full potential of GIS. This course will provide students with tools to start developing this important skill. Topics include a brief history of GIS, the nature of geographic data, coordinate systems, raster and vector data structures, digitizing and scanning, raster and vector overlay, GIS applications, cartographic output, and a discussion of popular GIS programs.

Ryan R. Jensen, Ph.D., is Assistant Professor of Geography at Indiana State University. His research focuses on natural resource management and landscape ecology using GIS and remote sensing technologies.

INGISI Factoid #12
Dr. van Gelder has taught the GPS Workshop at every GIS conference in Indiana since 1992!

Workshop 4: Fundamentals of GPS for GIS
location: Suite 11 & 12

The objective of the Workshop is that the participant:

- obtains a working knowledge at the basic level for GPS surveys for GIS applications,
- will understand under what circumstances GPS will be a welcome asset for all geopositioning activities, and under what circumstances GPS will have a limited usage.
- becomes aware of new developments that may affect the way GIS/GPS positioners conduct business in the future.

The workshop is taught by Boudewijn van Gelder.

Dr. van Gelder is a faculty member in Geomatics Engineering, School of Civil Engineering, Purdue University . He is the Indiana State Geodetic Advisor (1995-present) and helped Indiana on HARN.

Workshop 5: Leveraging your GIS
location: Suite 13 & 14

This workshop explores how to move beyond an organizations native GIS data set. There are ways for an organization to move beyond the traditional uses and methods of GIS data collection and data dissemination.

Strategic Planning—The critical importance of strategic planning for GIS investment aids in the advanced development of GIS tools and approaches. This part of the workshop explores how one goes about conducting successful planning projects. Whether looking to complete a needs assessment, implementation plan, or a visioning workshop, what factors can lead to success and aid to design a truly progressive GIS program.

Application Development—Applications provide the critical level of GIS success -- the number of users of your data. This part of the workshop explores how to go about an application development project and also what tools are available to develop and deploy GIS applications.

Field GIS—Data maintenance and updating of critical infrastructure data sets, requires a level of accuracy and attention to detail that almost always needs actual field survey. By using tools to do accurate and precise field data collection, your GIS can be leveraged to a much more useful part of the organization.

Jeff L. Siegel, AICP - Technology Services Director, HNTB Corporation
David Bayer - GIS Analyst, HNTB Corporation

INGISI Factoid #546
668 People in Indiana regularly receive the Indiana GIS Initiative Newsletter

Workshop 6: Your Gateway to Data: Metadata
location: Suite 15

Metadata is documentation for your GIS data—it is vital for data sharing and protecting your data investment. This workshop will cover (1) Introduction to what is metadata; (2) Introduction to the FGDC CSDGM; (3) The process IGS uses for completing FGDC complaint metadata.

I have my “green workbook” and graphical representation on my desk … now what? The actual FGDC Content Standard for Digital Geospatial Metadata (CSDGM) is rather generic yet the outline is a bit overwhelming. If not much thought is put into completing the form, it doesn’t take long to finish. However, the goal of metadata is to enlighten the reader. Put some thought into filling out the fields to make the information useful and informative. Learn from others who have been there. If the process becomes part of your daily activity, the task of creating metadata is not that burdensome.

Karen Like has worked for the Indiana Geological Survey (IGS) since 1994 and is currently in the Graphics and Cartography group as a Cartographic Specialist. Karen has a BS in geology and has worked in the environmental field for 15 years. She started at the Survey as an hourly database person in 1994 and expanded into GIS 5 years ago. Two years ago she was hired into the Graphics and Cartography group as a Cartographic Specialist.

Thursday, February 28, 2002

11:45 am—1:30 pm

Lunch—*On Your Own (see map insert for restaurant locations)*

1:30 pm—4:45 pm

Breakout 1: Transportation/ Utilities/ Infrastructure Management
location: Suite 2 & 3

1:30—2:15 pm: Indianapolis' Sewer Layers: A True Story of Data Clean-up
Speaker: Jennifer Weintraut, City of Indianapolis

The City of Indianapolis/Marion County GIS Division maintains a comprehensive Sanitary and Storm Sewer GIS. This paper will discuss the various methods employed for rectifying the legacy of errors in developing information where record drawings do not exist, removing inconsistencies between the Hanson Infrastructure Management System (IMS) Database and ArcInfo GIS (SDE), and getting clean accurate data into the system quickly and efficiently.

Several fine eateries are located nearby in the Fashion Mall and food court.

2:30—3:15 pm: Taking your GIS Data into the Field
Speaker: Charline M. Avey, Indianapolis Water Company

Mobile Computing continues to improve productivity, enhance customer service, get and keep assets up to date for those that have implemented it. It also continues to change so rapidly that last year's presentations on the subject are outdated again. This presentation will cover the *current* hardware/software platforms for mobile computing and what constraints they have and their costs to implement. The attendee will learn what deciding factors are required to use each platform and address the major problems to using GIS data in the field with doable solutions and benefits. People issues will be addressed with actual solutions that our company has found worked very well.

3:30—4:45 pm: Indianapolis Transportation Monitoring System Enhanced User System
Speaker: Heather Turner, HNTB Corporation

In 1996-97 the Indianapolis MPO developed a regional Transportation Monitoring System (TMS) to provide a tool for completing the Indianapolis regional transportation planning program and to comply with the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). The goal of the system was to develop a comprehensive compilation of available transportation, traffic, and related data while satisfying the intent of the regulations outlined in ISTEA.

In the fall of 2001, HNTB was selected to assist the MPO in the development of the TMS Enhanced User System. The Enhanced User System is a customized working environment within the ArcGIS family of products. It features custom tools, user interfaces, reports, and maps developed using ArcObjects.

This presentation will focus on the development of this organization-focused GIS application, which serves as an essential tool for transportation planning in the Indianapolis Region.

Breakout 2: Data Sharing and Data Access
location: Suite 4 & 5

1:30—2:15 pm: Indiana Spatial Data Digital Library
Speaker: Anna Radue, Indiana University

Indiana University has developed a spatial data archive using Indiana University's Massive Data Storage System. The near-line digital library archives high-resolution geographic imagery including the USGS 1998/99 digital ortho quarter quads (DOQQs), enhanced digital raster graphics (DRGs) for Indiana, and 1998 digital orthos of Bloomington, Indiana, at 6-inch resolution.

In addition to uncompressed formats, the archive offers imagery in LizardTech's MrSID format, a compression technology that encodes large image files using wavelet-based algorithms. The MrSID format allows distribution of file archives via remote and wireless connections. Currently, the archive has 150 GB of data accessible to anyone via the WWW (http://storage.iu.edu/DOQQS).

INGISI Factoid # 22
The *Indiana Geographic Information Catalog* is an easy way to find Indiana data (www.in.gov/ingisi)

2:30—3:15 pm: Combining GIS and GPS to Create a Responsive and Practical Data Library for a Statewide Organization
Speaker: Larry Theller, Purdue University

CAAGIS is under contract to the Office of the Indiana State Chemist to provide training, software support, and a data library for their pesticide investigation field staff. We were tasked with establishing software and procedures to assist the Pesticide Investigator to locate information about a site investigation using GIS. We established a software interface (an extension) to ArcView 3.2 which provided tools the investigator needed for their commonly needed queries. We also established a GIS data-layer library including aerial photos, topographic maps, and demographic data for the whole state. This extensive library was developed on a county-by-county basis, allowing as a byproduct the distribution of 40 gigabytes of public GIS data on county-based CD-ROMs. We provided a simple hardware and software system to allow the collection of field data in shapefile format by the investigators.

3:30—4:45 pm: Information Cartography: Using your GIS for Non-Spatial Data Analysis
Speaker: L. John Old, Indiana University

GIS is a tool suited to the graphical representation of information residing in databases. "Maps" such as schematics, site maps, and multidimensional scaling maps that lack real-world coordinates may be manipulated from within a GIS. I will present and discuss examples of GIS applied to the analysis of data from natural language semantics, detection of patterns in child abduction data, and university student catchment information.

Thursday, February 28, 2002

1:30 pm—4:45 pm *Continued*

Breakout 3: Environmental and Natural Resources
location: Suite 6 & 7

1:30—2:15 pm: Maps, Trees, & Satellites: GIS & GPS in Urban Forestry
Speaker: Cathy Genest Godfrey, ACRT, Inc.

Urban trees are assets that need to be managed. GIS and GPS make inventorying and managing trees easier and more powerful. This talk defines and reviews GIS and GPS, going into detail on GPS data collection and its use within GIS software. The cooperation of ESRI's ArcView (3.2), Trimble's PathFinder, and ACRT's TreeManager software are discussed.

INGISI Factoid #68

The Indiana GIS Initiative "Commitment to Success" was signed in 1997 by 30 stakeholders!

2:30—3:15 pm: HYMAPS-OWL: Hydrological Map Server - On-line Watershed delineation
Speakers: Bernard A. Engel, Jin-Yong Choi, Larry Theller, Jon Harbor, Purdue University

A Long-Term Hydrologic Impact Assessment (L-THIA) model was developed to serve land use planners, local government and small community needs for a user-friendly hydrologic impact evaluation tool. L-THIA was initially a spreadsheet tool (Harbor, 1994), and recently was more integrated with GIS (Grove, 1997, Bhaduri, 1998). However, it was natural that the tool should be powered to support a large number of potential users by the World Wide Web (web). An interdisciplinary team at Purdue University is developing and operating a web-accessible version of L-THIA, overcoming several difficulties related to common data availability, ease-of-use and widespread accessibility with interactive web-based GIS. The integrated web based system for one-stop operation of long-term hydrologic impact analysis through the Internet was developed. Web-GIS capability and robust watershed delineation capability, Hydrological Map Server-On-line Watershed Delineation (HYMAPS-OWL), were developed for spatial data preparation that has been regarded as a barrier for on-line hydrologic model operation…. map layers including hydrologic soil group, roads, counties, streams, lakes and railroads, and on-line operation of watershed delineation from an outlet selection on the GIS ... http://www.ecn.purdue.edu/runoff.

3:30—4:45 pm: Using GIS for the Agricultural Reassessment Process
Speaker: Andrew Harrison, The Schneider Corporation

This session will show you how GIS can be used to complete the agricultural reassessment process and calculate the key data needed. You will see examples of the required layers of information needed to complete the process and we will discuss creation and maintenance of those layers. You will also get an introduction to the process needed to transfer data into a Computer Aided Mass Appraisal (CAMA) system. This session is an excellent choice for those interested in seeing how GIS can be applied in county government.

Breakout 4: Economic Development / Planning
location: Suite 11 & 12

1:30—2:15 pm: Estimating the Effects of the SWANCC Supreme Court Ruling Using GIS
Speaker: James T. Robb, IDEM

Using the National Wetland Inventory maps and the USGS 1:100,000 stream DLG's the Indiana Department of Environmental Management (IDEM) estimated the extent of waters removed from federal jurisdiction by the SWANCC ruling based on connection to a stream, and proximity to connected waters. Adjacent was assumed to mean linear proximity to a connected water. Limiting adjacency to direct connection leaves 30.9% of Indiana's waters, by area, unregulated. A 1,000-meter limit results in 4.7% of Indiana's waters, by area, left unregulated.

2:30—3:15 pm: Remote Sensing of Land Cover Dynamics in Indiana
Speaker: Jeffrey Wilson, PhD - IUPUI

Satellite imagery is used to create a time sequence of land cover maps for a 44 county study region in central Indiana. Maps are compared in a GIS to develop a database of land cover dynamics and relationships between these changes and socioeconomic variables that potentially contribute to rural-to-developed land cover conversion are examined. Environmental consequences of land cover change are explored in terms of quantifying types and amounts of rural land cover lost to development and influences of these changes on regional patterns of radiant surface temperature and vegetation are analyzed.

INGISI Factoid #135
You can use the "Value of GIS" IGIC Presentation on your conference CD to communicate with your local decision-makers.

3:30—4:45 pm: Indiana Gets NEW Parcel Numbers for GIS Data Access
Speaker: Randy Kobiella, The Sidwell Company

Is getting a better understanding of Indiana's new parcel numbering system on your agenda? If you're among the many individuals who have answered yes to this question, then this interactive session is for you! You'll learn first-hand how Allen County and Howard County are taking the lead in implementing this State mandate which assigns geographically derived parcel numbers to real property. Join us as both counties' very different implementation plans are revealed. Ultimately, the new parcel numbers will be used, by both counties, to integrate their GIS for data access with a variety of databases such as tax cycle, assessment, and appraisal.

Thursday, February 28, 2002

1:30 pm—4:45 pm *Continued*

Breakout 5: Emergency / Public Health
location: Suite 13 & 14

1:30—2:15 pm: GIS and Addresses in E9-1-1
Speaker: Capt. Kathryn Stevens, Allen County Sheriff Department; Sam Wallace and Ron Cramer, DDT, Inc.

Use of digital GIS mapping is becoming widespread with E9-1-1 services. Typically, local governments and CAD vendors do not have the GIS expertise and personnel to successfully employ GIS data. The result is enormous lost time, money, and political buy-in trying to correct data fallout and weather costs. The purpose of this presentation is to demonstrate the critical importance of E9-1-1 agencies to understand what GIS data is, differences GIS data can have, and the data needs for E9-1-1 services. The E9-1-1 efforts of Allen County, Indiana will be showcased by Capt. Kathryn Stevens as a model for the level of planning, expertise, and data needed to successfully implement GIS mapping data with E9-1-1 services.

INGISI Factoid #16
93 counties, cities and towns in Indiana have, or are planning, a GIS program.

2:30—3:15 pm: GIS Hits the Books - The Development of Purdue University's GIS
Speaker: Keith Moore, Purdue University; Joseph Zumwald, Woolpert

This presentation will explore the steps Purdue University has taken to create a Geographic Information System for the West Lafayette Main Campus. Focusing on facility and site management, the concept of GIS has grown from its roots in CADD through a pilot project to an established, stable environment. The presentation will focus on what was learned and how it's being applied, including Purdue's list of "dos" and "don'ts" in GIS development. We'll even include the "whoops" because Purdue has learned many valuable lessons during this process that we would like to share.

3:30—4:45 pm: E911 Wireless Phase II Requires New Maps
Speaker: Brant Howard, CompassCom

Most E911 CAD basemaps are not sufficient to display the latitude/longitude coordinates soon to be transmitted to emergency 911 centers from wireless telephones, per FCC E911 Wireless Phase II regulations. Commercially available map data is a start but requires correlation to existing MSAG data to be useful in dispatch. Digital street centerline maps georeferenced to a coordinate system and accurately addressed will be the requirement. GPS is a cost-effective method of collecting accurate data. Satellite and aerial imagery is available as a complement to GPS, by reducing GPS field survey time and enhancing the overall information content of the created digital basemap. If accurate parcel data is available it can be helpful in the addressing process. Approximately half way through the basemap creation project a separate and concurrent effort needs to begin on designing the flow of future data for the maintenance process. The maintenance process should be documented, approved and ready to go when the basemap is completed. Maintenance can begin as the completion of the initial basemap creation project ends. Accurately integrating GIS into the E911 process will result in enhanced public safety and save lives.

Breakout 6: Funding Sources and Strategies
location: Suite 15

1:30—2:15 pm: GIS and Photogrammetry Procurement: Designing Good Procurement Practices
Speaker: Doug Marvel

This session will focus on critical management phases for procuring GIS and photogrammetry services and will provide a working template for a successful procurement process. Request for Proposals (RFPs) and Request for Qualifications (RFQs) will be discussed and outlined. The various phases, planning through implementation, will be discussed as well as contract negotiation strategies and cost scenarios to help obtain best pricing structures. It will also include a section on when and how to hire consultants. The last portion of the session is open for the audience to discuss past experiences and what they think were the major factors in their processes, good or bad.

INGISI Factoid # 7
One-meter 1998 digital orthophotography is available for every county in Indiana!

2:30—3:15 pm: The Reality of a Pie-in-the-Sky ArcIMS Implementation
Speaker: Rick Petrecca and Cheryl Spencer, City of Indianapolis

The City of Indianapolis/Marion County GIS embarked on an ambitious ArcIMS endeavor in 2001. During the implementation of the initial ArcIMS plan, many challenges arose that were unforeseen. These challenges and how the team overcame them changed the course of the implementation. This paper will focus on how the Indianapolis team modified their implementation tactics to fit within the limitations of the project.

3:30—4:45 pm: The National Hydrography Dataset - A Cooperative Effort
Speaker: Charles Hickman, USGS

The U.S. Geological Survey, Environmental Protection Agency, Forest Service, Indiana Department of Natural Resources, and others are developing the National Hydrography Dataset << http://nhd.usgs.gov/ >>. NHD combines the best of the EPA RF3 Reach data and USGS DLG hydrography data. It contains comprehensive information about surface water features such as lakes, streams, and springs. NHD will improve integration of water data and applications, and will encourage shared maintenance and enhancement. The development of high-resolution, 1:24,000-scale, NHD data is a part of the Indiana I-Team framework plan. Partners in the development of Indiana NHD include IDNR and the Hoosier National Forest.

Thursday, February 28, 2002

5:00 pm—7:00 pm

Exhibitors' Reception
location: Plaza Foyer, Suite 8, 9 & 10

Gain valuable contacts and information— Be sure to visit with the Exhibitors during this special reception.

Aerocon
CadCam Plus Inc.
CompassCom Inc.
Digital Data Technologies Inc.
ESRI
G. Lengemann Company
GIS Solutions Inc.
GRW
HNTB Corporation
Indiana Geographic Information Council
Indiana Geological Survey
IKO/GITA
Intergraph Mapping and GIS Solutions
Lizardtech
Pangea Information Technologies
Pinnacle GIS Services
Plexis Group
Seiler Instruments
Sterling Systems
Surdex Corp.
TerraGraphix
The Polis Center at IUPUI
The Sanborn Map Company
The Schneider Corporation
The Sidwell Company
URISA
US Geological Survey
USDA NRCS
Woolpert LLP
WTH Engineering Inc.

INGISI Factoid #93
There are 3 published statewide GIS Standards and Recommendations in Indiana - See your conference CD!

Friday, March 1, 2002

7:00 am—8:00 pm

Continental Breakfast
location: Plaza Ballroom

8:00 am—9:15 pm

Plenary Session—Welcome and Keynote Address:
"The President's GIS Initiatives"
location: Plaza Ballroom

Welcome—Jill Saligoe-Simmel, IGIC Chairman
Keynote Speaker—Ronald Matzner

Ronald Matzner is Senior Vice President, Trebizon International Enterprises, Alexandria, Virginia. He is coordinator of the Federal Office of Management and Budget (OMB) Information Initiatives, which include the I-Team Geospatial Information Initiative and Geospatial One Stop. From 1999 to 2000, Mr. Matzner served as Counselor to the Administrator, Office of Information and Regulatory Affairs, Office of Management and Budget. He directed the OMB Information Initiative, from which arose the I-Team Initiative and Geospatial One Stop. He also served from 1994 to 1999 as Associate Deputy General Counsel, U.S. Small Business Administration, where he directed SBA's efforts to reduce regulatory, paperwork, and reporting burdens on small businesses. Prior to government service, Mr. Matzner was an attorney and entrepreneur in New Jersey. He is a graduate of Yale Law School and the Wharton School of the University of Pennsylvania.

The Keynote Address at this years Indiana GIS Conference will be an insightful account of national efforts for geographic information (GI) 'moving to the mainstream' at all levels of government, with particular focus on Indiana.

"The President has a vision of GI for the Nation that will transform the way government at all levels addresses the increasingly complex issues of the 21st century. For the President's vision to become a reality, we need a functioning National Spatial Data Infrastructure (NSDI). We are not there yet. Despite many years of effort by the FGDC, Federal agencies and the spatial technology community, important parts of the NSDI still need to be fully implemented. There are still institutional and financial barriers to overcome and technical elements to complete.

The Administration is embarking upon an ambitious effort to enable GI for the Nation. Geospatial One-Stop will complete essential technical elements of the NSDI within 12-15 months. I-Teams and Federal Partners address the institutional barriers, and support and help implement Geospatial One-Stop. The Financial Solutions portion of the I-Team Initiative addresses the financial issues. Together, they constitute an integrated approach to implement the NSDI and sustain GI for the Nation."

INGISI Factoid #44
Indiana was 5th to submit a GIS I-Team Plan nationally. See the report on your conference CD.

Friday, March 1, 2002

9:30 am—11:35 am

Indiana I-Team Business Meeting
location: Suite 15

9:30 am—11:35 am

Breakout 1: Transportation/ Utilities/ Infrastructure Management
location: Suite 2 & 3

INGISI Factoid # 446

Framework Data—

- Transportation
- Geodetic control
- Ortho-imagery
- Hydrography
- Cadastral
- Boundaries
- Elevation

9:40—10:30 am: Using LIDAR for Countywide Surface Modeling
Speaker: Brad Fugate, CP - Woolpert

LiDAR is not just for corridor mapping, but is a cost-effective solution for countywide surface modeling. Often times LiDAR is touted as the "solution" for corridor mapping-such as highway and utility corridors, and shoreline mapping. LiDAR is often used to obtain surface modeling in inaccessible areas such as restricted military areas, areas of remote, dense vegetation, and so on.

This presentation will focus on how LiDAR can provide a cost-effective solution for DTM/ surface modeling for large, countywide areas. LiDAR can provide up to 30 percent cost savings over conventional DTM/surface model generation. With this reduction in cost, counties can now afford more than just a DEM for digital ortho rectification. LiDAR will allow them to generate a DTM for surface modeling, contour generation, etc. Highland County, Ohio, a county whose land area consists of 553 square miles, will be the primary example.

3:10—4:00 pm: Public Works Data capture Improved with Object Based Technology
Speaker: Bob 'RMAC' McIntyre, Intergraph Corporation

Object Based technology is making rapid advances in the generation and maintenance of GIS features rapidly advancing in the GIS arena. Public Works Water and Sewer networks are an excellent example of how GIS features can be created which support characteristics of real world objects. Pipeline network 'intelligence' is added to the features (pipes and fittings) using object based technology and attribute based rules.

These rules, in turn, help build topologically correct networks based, for example, on cardinality (only 3 pipes to a Tee, 2 pipes to an Elbow), material (cannot connect steel to PVC, except with the correct adaptor), etc.

Breakout 2: Data Sharing and Data Access
location: Suite 4 & 5

9:40—10:30 am: Introduction to GIS on the Internet
Speaker: Andrew Harrison, The Schneider Corporation

The Internet is becoming the medium of choice for information delivery. GIS projects across the world are now being built with this in mind, and many existing GIS projects are being revamped for Internet distribution. This session will introduce attendees to the basics needed to deliver GIS information over the Web. Some examples of topics covered are - terminology, hardware, software, applications development, and legal issues. Demonstrations will be provided of existing GIS Web sites.

INGISI Factoid #28
Metadata is data documentation—see Indiana's statewide standard on your conference CD!

10:45—11:35 am: Using Electronic Document Management Systems for Land Information Documents
Speaker: Doug Roberts, SDI

As the sheer number of physical documents that local government has to store and locate reaches critical mass, solutions are sought that will not only free up valuable space but allow for faster retrieval of pertinent documents. Electronic Document Management Systems (EDMS) are being installed in local government to provide instant access to any document related to, say, a particular parcel, for Web-enabling the documents for access by the Public, and for linking these documents to other land information systems, such as GIS and Financials software. This presentation will discuss the reasons that local government should purchase an EDMS (i.e. what will it do for me?), the selection criteria that can be used to select from the more than 100 vendor solutions in the marketplace, and how EDMS is being integrated with other land information systems.

Friday, March 1, 2002

9:30 am—11:35 am *Continued*

Breakout 3: Environmental and Natural Resources
location: Suite 6 & 7

9:40—10:30 am: The Cartographic Method of DEM Creation and Accuracy Assessment
Speaker: Qihao Weng, PhD - Indiana State University

This paper introduces the cartographic method of digital elevation model (DEM) creation, and develops a methodology for quantifying the uncertainty of the DEMs. The origins and propagation of uncertainty in the process of DEM production were identified and examined. The uncertainty of DEM data was quantified by computing a vector total of root-mean-squared-error (RMSE) from the source map, sampling and measurement errors, and the interpolation process. Distributional measures including accuracy surfaces, spatial autocorrelation indices, and variograms were also employed to quantify the magnitude and spatial pattern of the uncertainty. The test of this methodology utilizes a portion of a 1:24 000 topographic map centered on Stone Mountain in northeastern Georgia, USA. Five DEMs, constructed with different interpolation algorithms, are found to have the total RMSE ranging from 4.39 to 9.82 meters, and a highly concentrated pattern of uncertainty in rugged terrain. This study suggests that the RMSE provides only a general indicator of DEM uncertainty. Detailed studies should use distributional measures to understand how the uncertainty varies over a surface.

INGISI Factoid #786
The Indiana Geographic Information Council was formed in 2000 and has 25 members—local through federal, all GIS sectors.

10:45—11:35 am: Spatial Distribution of Soil Limitations and Septic Systems
Speaker: Heidi M. Stout and Dr. Brad Lee , Purdue University

Septic system utilization is continually increasing, however, there has not been a thorough spatial assessment of septic system performance relative to soil limitations. Of 8,354 septic system permits issued in Tippecanoe County, Indiana, since 1969, 2,709 were repairs. The permit locations were geocoded into ArcView®3.2 using the Census 2000 Tiger address data. Using the Soil Survey Geographic Database developed by the Natural Resource Conservation Service, correlations were made based on permit location and soil limitations commonly responsible for septic system failures. In Tippecanoe County, preliminary results indicate that regardless of soil limitations, one-third of the septic systems have been repaired.

Breakout 4: Economic Development / Planning
location: Suite 11 & 12

9:40—10:30 am: GIS Brings New Services to Small County Government - Building Upon Success
Speaker: Joe Zumwald, Woolpert, Ralph Schoen, Harrison County Auditor

Harrison County had about 25,000 parcels in its 484 square miles, which puts it on the small side of GIS development. However, with its location just across the Ohio River from Louisville, Kentucky and its access to the riverboat casinos, the county is experiencing considerable growth in residential and commercial development. With a staff willing to learn, the county is pressing ahead with GIS development throughout the offices and will soon move from hard copy maps to a total GIS solution. By early 2002, the county will make access to the GIS data even more convenient, when parcel mapping and related records are accessible over the Internet. Users will be able to access parcel mapping, digital orthophotography, and tax records all directly from the Auditor's Office. At about the same time, the county will also establish a wireless network for users in separate county offices to access the orthophoto images, parcel mapping and centerline data that now must be viewed in multiple offices in at least three different buildings.

This presentation is a study on data and service development at Harrison County, Indiana as it grows from conventional ink drafting directly into an Autodesk Map, ArcInfo 8.1, ArcView 3.x, and soon a web hosted GIS environment.

10:45—11:35 am: GIS Views of Pollution Sources Helps Manage Indiana's Environment
Speaker: Pat Hinds, IDEM

IDEM is responsible for protecting, restoring and managing Indiana's environment and protecting public health. IDEM and EPA are required to collect, analyze and store data to help staff perform their jobs (a huge task). We have linked environmental data and mapped it on an interactive web page by using GIS. This allows analysis of diverse sources of pollution, giving a more complete picture of Indiana's environment.

INGISI Factoid # 83
The Indiana Geographic Information Council is an official Cooperator on the National Spatial Data Infrastructure with the Federal Geographic Data Committee.

Friday, March 1, 2002

9:30 am—11:35 am *Continued*

Breakout 5: Emergency / Public Health
location: Suite 13 & 14

9:40—10:30 am: Public and Employee Access to GIS Data: Getting GIS into the Hands that Need It
Speaker: Sam Wallace, Brian Sovik and Ron Cramer, DDT, Inc.

Oftentimes, governmental GIS data is accessible and usable by only a select few individuals who possess the expertise and costly GIS software licenses, thereby seriously limiting the benefits of GIS in restricting its widespread use by the public and governmental staff.

The purpose of this presentation will be to demonstrate with real case scenarios, that great benefits can be gained from making governmental GIS data available to the public and internal use. With remote access (Internet and CD-ROM) and front counter/desktop software applications, several local governments have been extremely successful in disseminating GIS data to the public and internal staff who need it the most, increasing general GIS exposure and knowledge while promoting the great value of the system.

INGISI Factoid #14
The University GIS Alliance was formed in 1989 and hosted many of Indiana's past GIS conferences. UGISA merged with INGISI in 2001.

10:45—11:35 am: The City of Chicago's IMS-based Automated Liquor Licensing System
Speaker: Jerry Johnston, PhD - Pangaea Information Technologies, Ltc. , Kauser Ravzi, City of Chicago Business Information Services, and Anna Fan, City of Chicago Business Information Services

The City of Chicago has developed an automated system to facilitate the issuance of liquor licenses. Two ArcIMS applications were developed for this purpose: one that determines whether an applicant address is restricted for certain types of liquor licenses; and one that automatically identifies all registered voters living within a fixed radius of the proposed license site and sends them a notification postcard. This new, automated system offers a number of advantages over the previous paper-based methodology, including higher overall accuracy in identifying potentially affected voters and a dramatic reduction in the time required to carry out the licensing process.

Breakout 6: Funding Sources and Strategies
location: Suite 15

9:40—10:30 am: Developing Practical Cadastral and Infrastructure Database Designs
Speaker: David Lewis, Resource Mapping, Inc.

One of the most difficult aspects of implementing a governmental GIS program is creating a database design that satisfies the needs of your organization. This process can be time consuming and costly. It is an investment into the system and a commitment to maintain it.

Join me as we review database designs for Floodway, Cadastral, Sanitary, Storm and Water Geographic Information Systems. Attendees will gain valuable insight into the design process and functionality of database driven topological connectivity. We will discuss three-dimensional utility database designs and learn how they are implemented. Each attendee will learn how database design elements impact capture costs and exit the session with example database designs which may be used as templates for any similar project.

INGISI Factoid #111
There are at least 7 Indiana state agencies that are using GIS.

10:45—11:35 am: Issues Related to Developing a Needs Assessment and Implementation Plan
Speaker: Greg Johnson, SDI

SDI was contracted by Woodridge, IL, to provide a Village-wide GIS Needs Assessment and Implementation Plan. During this project several items were identified which would have a significant effect on a village-wide GIS implementation. The Administration department had been working with the other departments in developing a village-wide technology plan. Only one Village employee was responsible for all GIS and CAD production. Finally, HTE was implemented village-wide, but the address data updates needed to be managed for incorporation into a GIS. My presentation will cover these issues and other important tasks the Village took on to reduce the project cost.

11:35 am—1:00 pm

Lunch, Awards, Door Prizes
location: Plaza Ballroom

Friday, March 1, 2002

1:00 pm—4:00 pm

Breakout 1: Transportation/ Utilities/ Infrastructure Management
location: Suite 2 & 3

1:00—1:50 pm: Innovative Handheld GIS Data Collection Methods
Speaker: David Bayer, HNTB Corporation

Collecting quantitative and qualitative data in the field is no longer just a good idea. By creating customized handheld applications, HNTB has made the idea a reality by developing a tool that enables field collection of rail data including station information, amenities, conditions, signals, structures, ROW, fencing, crossings, etc. The tool can be easily incorporated into an asset management program and used as an inspection solution and has opened the door to numerous other similarly customized applications within the transportation sector.

INGISI Factoid #19
Department of Natural Resources was the first state agency in Indiana to use GIS

2:05—2:55 pm: Using GPS for GIS Data Maintenance
Speaker: Bob Busch, CompassCom

GPS-based GIS data collection and maintenance is one of today's most exciting GPS applications. Any organization or agency which needs access to accurate location information can benefit from the efficiency and productivity provided by GPS technology. All over the world, government agencies, utility companies, and scientific organizations use GIS data collection and maintenance systems to keep their spatial databases up-to-date and competitive. GIS data collection and maintenance systems provide solutions for maintaining and updating complex asset inventories and conducting environmental impact studies, among other tasks. Cities and counties rely on GIS databases to locate and maintain sewers, roads, signage, and public buildings. Utilities also depend on accurate databases to locate, monitor, and maintain millions of dollars of capital assets. GPS-based GIS data collection and maintenance systems provide an easy-to-use, efficient, and cost-effective solution for keeping GIS databases current and accurate.

10:45—11:35 am: Utilizing GIS In Developing Realistic Demand Distributions to Support WaterCAD® Modeling in Water Supply Master Planning
Speaker: Art K. Umble[1], Melissa Moran[2] , Michael C. Machlan[1], Tarlochan Bhullar[2] [1] City of Elkhart Public Works and Utilities; [2] Malcolm Pirnie, Inc.

Traditional approaches to projecting water consumption demands focus on population distributions and projections in conjunction with land use and zoning data. Such data typically is derived from census bureau data, local housing authorities and regional planning agencies. Unfortunately, too often such data requires subjective interpretation due to inconsistencies in the data, over-consolidation of the data, or the data is simply outdated.
The City of Elkhart has developed its demand distributions to support its hydraulic model for its water master plan using demand rates derived by analyzing actual billing records over the past several years. Incorporating a state-of-the-art GIS *geocoding* feature, actual usage rates were assigned to specific point locations throughout the distribution system. ... This integrated method also permitted Elkhart to more efficiently model future demand projections. In developing continuous simulations, the method reduced the amount of subjectivity and uncertainty involved with assigned diurnal use patterns in and around specific model node points.

Breakout 2: Data Sharing and Data Access
location: Suite 4 & 5

1:00—1:50 pm: A New Degree Program Combining GIS and Computer Graphics Technology
Speaker: Douglas Acheson, IUPUI; Kevin Mickey, The Polis Center

An initiative to integrate GIS technologies into visible, mainstream applications has brought together entities on the IUPUI campus to offer an innovative degree program.

The Polis Center, in cooperation with the Computer Graphics Technology (CGT) program and the Department of Geography at IUPUI, are finalizing plans to begin offering a Bachelor of Science degree in the fall of 2002. The degree combines established GIS courses, Polis Center expertise, and graphics technologies such as digital imaging, 3D modeling, animation, and Web development.

A first of its kind, this degree program will bring GIS to the forefront in today's visually rich culture.

INGISI Factoid #225
The firststatewide data set in Indiana was the National Wetlands Inventory.

2:05—2:55 pm: The National Map - Vision for a Current Spatial Data Foundation
Speaker: Charles Hickman, USGS and Susan Carson Lambert, Intergovernmental Advisor USGS, National Map

This session will present the vision for *The National Map*,(see: http://nationalmap.usgs.gov/) a database of continuously maintained base geographic information for the United States and its territories that will serve as the Nation's topographic map for the 21st century. Improvements will include greatly increased attention to keeping the information current, seamless national digital data coverage to avoid problems now caused by map boundaries, higher resolution and positional accuracy to better support user requirements, thorough data integration to improve the internal consistency of the data, and dramatically increased reliance on partnerships and commercially available data. << http://nationalmap.usgs.gov/ >>

3:10—4:00 pm: Feature Metadata - Preview of Indiana Standard
Speaker: Jeff Sewell, IDEM

"Feature metadata" is data documentation for the individual GIS features (points, lines, or areas) composing a GIS theme or layer. If a GIS dataset contains significant variability in when or how the data were created, or who created the data, the individual records are easily documented in feature metadata fields added to the GIS data table. This session provides practical how to information on enhancing GIS metadata using feature metadata, and previews the draft Feature Metadata Standard under development by the IGIC Data Standards and Recommendations Committee.

Friday, March 1, 2002

1:00 pm—4:00 pm *Continued*

Breakout 3: Environmental and Natural Resources
location: Suite 6 & 7

1:00—1:50 pm: NAPRA WWW Predicted Pesticide and Nutrient Mapper
Speaker: Zhenxu Tang, Purdue University

The latest advances in Geographic Information System (GIS) have come most notably in the forum of the Internet. Access to spatial data through the Internet is growing rapidly, which enhances the two-way flow of real time information between the public and those governing them. However, the efficiency and practicability of web-based GIS systems strongly depends on the selection of web-based mapping software and the system's interactive capability. MapServer, an open source development environment, was selected in this study for its fast speed and powerful functionalities to build a spatially enabled Internet application ("NAPRA (National Agricultural Pesticide Risk Analysis) WWW Predicted Pesticide and Nutrient Mapper")…This system can be a very efficient tool to serve widespread geographic information through the WWW and it is a solution for a public with varied GIS background levels.

INGISI Factoid #327
Indiana's first GIS coordinating committee was formed in 1989.

2:05—2:55 pm: Soil Data Viewer: ArcView & Web-Based Solutions for Accessing Soil Attributes
Speaker: Bruce Nielsen, National Resources Conservation Service

The Natural Resources Conservation Service (NRCS) is the fedaral agency recognized for its role in collecting and distributing information about our nation's soil resources. In Indiana, soil survey activities are performed through the Indiana Cooperative Soil Survey, which includes NRCS, the Purdue University Agricultural Experiment Station, and the Indiana Department of Natural Resources State Conservation Board & Division of Soil Conservation.

Recent advances in geospatial technologies have led to a rising demand for detailed soils information. This includes the many soil attributes that are collected, as well as the spatial location of each soil type. Data developed to NRCS standards includes both the spatial and attribute data.
NRCS has developed an interface to create custom maps for many of the soil attributes. It is available both as a Web-based product, and as an extension for ArcView. Each has its own set of requirements and capabilities.

3:10—4:00 pm: The Grand Calumet River: A Past Open Sewer, And A Future Urban Greenway
Speaker: Kevin Miller, IDEM

The Grand Calumet River in northern Lake County Indiana is the most impacted river in the Great Lakes Basin. Since the turn of the 20th Century the Grand Cal has had it's flow reversed, been the receiving stream for wastes from one of the greatest industrial areas of the world, has been judged by the International Joint Commission to be impaired for all beneficial uses, and is now subject to clean-up that will take 20-30 years to complete. This presentation will show the River over time and highlight a GIS application that incorporates data from 40 different sediment characterization studies and ranks the river reaches based on contamination levels.

Breakout 4: Economic Development / Planning
location: Suite 11 & 12

1:00—1:50 pm: Putting GIS on the Web
Speaker: Brent Mainzinger, The Sidwell Company

Are you interested in getting an inside look at the cutting-edge technology consultants are using to put GIS on the Web? Then this interactive session is for you! Two approaches to serving GIS data on the Internet will be outlined and demonstrated using ArcIMS technology. The first is a low-end approach where scanned maps are indexed, rendered and served to provide basic static map information. The second is a high-end approach, which integrates maps, aerial photography, tax cycle and appraisal data, structure sketches and dwelling photos - all within a dynamic searchable Web site. Hardware and software configurations will also be reviewed.

INGISI Factoid #98
IMAGIS was one of the first public / private GIS cooperatives in the US.

2:05—2:55 pm: City-County Enterprise-Wide GIS Implementation
Speaker: Cheryl Musgrave, Vanderburgh County

The speakers will review the process through which the City of Evansville and Vanderburgh County initiated and established their enterprise-wide GIS project. Their discussion will include organizational structure, the collection of data, integration with other systems, dispersing GIS data with web technologies (ArcIMS), and the establishment of a high-speed network to serve the data.

Speakers include GIS Committee Chairman Roger Lehman, GIS Project Champion and County Assessor Cheryl Musgrave, GIS Director Matt Arvay, and Consultant Kathy McCarter.

3:10—4:00 pm: Orthophotography and GIS
Speaker: Larry Dumont, GRW

Friday, March 1, 2002

1:00 pm—4:00 pm *Continued*

Breakout 5: Emergency / Public Health
location: Suite 13 & 14

1:00—1:50 pm: Lead Contamination: Jacobville Neighborhood Soil Contamination Site, Evansville, IN
Speaker: Lorraine Wright, IDEM – Applied Science Technologies

Indiana Department of Environmental Management staff conducted a historical record search and site investigation in Evansville, IN to determine if lead contamination existed. IDEM, Vanderburgh County, and Evansville staff shared data and resources. The Assessors database was used to help identify and notify residents and property owners that IDEM would collect soil samples in the area. GPS units were used to collect soil sample locations. Field data, GPS locations, chemical results, census and local data where compiled in an application that was used to manage and analyze data. IDEM and EPA used the application to recommend a new Superfund site.

INGISI Factoid #54

Gov. Frank O'Bannon's 2001 Proclamation recognized IGIC as the statewide GIS coordinating body.

2:05—2:55 pm: Improving Water Quality Via Wetlands
Speaker: Toby Days, Purdue University

Wetlands play a significant role in providing a healthy environment that we can all enjoy. These "kidneys of the landscape" provide wildlife habitat, improving water quality, and reduce runoff. However, many don't really realize the significant role these depressional areas play until they look at the actual figures. Purdue University constructed a 2-acre wetland on their Animal Science Farm in West Lafayette, IN. The site was constructed in ... Tippecanoe County along Marshal Ditch and was designed to improve the water quality of the adjacent ditch by pumping the ditches water through a series of wetland cells before returning it back to the ditch 975 ft. down stream. GPS and GIS applications were used to site map the wetland boundaries and delineate the watershed that outlets at the point were the ditch water is drawn into the wetland. Additionally, an estimate of the amount of sediment that runs off the watershed and is potentially filtered out of the ditches water by the constructed wetland was calculated.

3:10—4:00 pm: Environmental Risk Assessment of Animal Antibiotics using GIS & NAPRA Model
Speaker: James Hunter, Purdue University

Animal antibiotics exposure to the environment and anti-bacterial resistance has recently received great attention. 25 million pounds of antibiotics are used annually as growth promoters and anti-bacterials in the feed of livestock produced in confined feeding operations. Antibiotics may be excreted from the animal's body up to 90% unchanged and land application of manure containing concentrations of antibiotics may impact water resources through runoff or by leaching to groundwater. For this project the National Agricultural Pesticide Risk Analysis (NAPRA) model and ArcView GIS, in conjunction with researched mobility and persistence data, will be used to determine the fate of animal antibiotics based on a manure application scenario over the Purdue Animal Science Research Center (ASRC) watershed.

Breakout 6: Funding Sources and Strategies
location: Suite 15

1:00—1:50 pm: Non-Traditional Funding Techniques for Accurate County-Wide GIS Within Three Weeks
Speaker: Sam Wallace, Brian Sovik and Ron Cramer, DDT, Inc.

Traditional county GIS development plans have called for the ordered acquisition of a three basic data layers for a quality GIS: first, a digital parcel data layer; second, a county-wide digital orthophotography layer; and third, a street centerline base map with address ranges. This method of GIS development has been proven to be **extremely** costly and time consuming for county governments, resulting in minor successes with little to zero return on investment within the first 5-10 years of GIS development.

The purpose of this presentation will be to demonstrate with real case scenarios, that non-traditional methods and techniques currently being utilized by several funding sources in County government can significantly reduce the initial cost and delivery time, while enabling return on investment from the GIS within a matters of weeks as opposed to years.

INGISI Factoid # 3

The University Library at IUPUI hosts INGISI's data catalogue (www.in.gov/ingisi go to Data Discovery)

2:05—2:55 pm: Metadata as a Mechanism to Preserve Institutional Memory
Speaker: John Steinmetz, Indiana Geological Survey

The utility of metadata extends beyond its application to GIS. The Indiana Geological Survey (IGS) is employing metadata as a means to help preserve institutional memory. In an institution the size and diversity of IGS, a multitude of geospatially oriented data types are typically amassed by the staff in a period of a few months. Unless properly documented, field and analytical data, samples, unpublished maps, and well and mine records can easily be lost within the organization. An internal clearinghouse of metadata is being constructed to facilitate cataloguing and access to these data.

3:10—4:00 pm: The Seven Sins of GIS
Speaker: Andrew Harrison, The Schneider Corporation

Based upon the Gilligan's Island theme, this session is designed to demonstrate the common connection between the actors of Gilligan's Island, GIS, and the Seven Deadly Sins. This session is geared toward those that are considering, just starting, or building a GIS, but will also be enjoyable for those long time users. This is a lighter, more entertaining introduction to the most common obstacles in building successful GIS projects. You'll learn what the Seven Deadly Sins in GIS are, why they appear, and how to avoid or overcome them. Actual GIS projects will be discussed to demonstrate some of these factors and how they were dealt with.

COUNCIL MEMBERS:

Jay Poe, Association of County Land Surveyors / Huntington County Surveyors Office

Travis Worl, Association of Indiana Counties

Greg Justis, Cinergy

Mike Machlan, City of Elkhart Public Works & Utilities

Dave Mockert, City of Indianapolis

Tim Sutherland, Grand Cal Task Force

Larry Stout, Hamilton County - Information System Services Department

Bob Weaver, Hoosier Heartland Inc. / Johnson County Soil and Water Conservation District

Lisa Gehlhausen, Indiana 15 Regional Planning Commission

Mark Bucherl, Indiana Association of Cities and Towns

Lou Zickler, Indiana Association of Realtors / Horizon Group, Inc.

Irvin Goldblatt, Indiana Department of Environmental Management

Mike Andrews, Indiana Department of Transportation

Michael Baise, Indiana Farm Bureau, Inc.

John Hill, Indiana Geological Survey / Indiana University

Dan Pusey, Indiana Society of Professional Land Surveyors / Purdue University

John Tanger, NIPSCO

Becky McKinley, Northwest Indiana GIS Forum / Hammond Sanitary District

Roger Koelpin, State of Indiana Data Processing Oversight Commission

Jim Sparks, The Polis Center at IUPUI

Eric Torok, The Schneider Corporation

Phillip Worrall, Analytical Surveys Incorporated

Lindsay Swain, U.S. Geological Survey

Jane Hardisty, USDA-Natural Resources Conservation Service

Jill Saligoe-Simmel, Watershed Research

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